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Census year, 2011

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.	not available for any reference period
..	not available for a specific reference period
...	not applicable
0	true zero or a value rounded to zero
0^s	value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
^{p}	preliminary
^{r}	revised
x	suppressed to meet the confidentiality requirements of the *Statistics Act*
^{E}	use with caution
F	too unreliable to be published
*	significantly different from reference category ($p < 0.05$)

Table of contents

Summary 4

Introduction 5

Part 1. The census questionnaire's influence on the way in which the language questions were answered 6

a) The 2011 Census questionnaire in comparison with the 2001 and 2006 questionnaires 6

b) Previous studies of the differences in results, based on the short and long questionnaires 8

c) Differences in responses to the mother tongue and home-language questions between 2006 and 2011, compared with the previous intercensal period 10

d) Knowledge of official languages and first official language spoken 12

Part 2. Consistency of mother tongue and home-language responses between censuses 12

a) Changes in responses to the mother-tongue question and impact on the size of linguistic groups 13

b) Changes of response to the language spoken at home question 17

Conclusion 20

Appendix 1 21

Appendix 2 24

Appendix 3 28

Note to readers 29

Acknowledgements 29

Summary

A review of the results based on the 2011 Census data has shown the following:

- The 2011 Census data are considered to be of good quality. However, Canadians were less likely to report a language other than English or French as their only mother tongue, than when they completed the **long** questionnaire in previous censuses, and were more likely to report more than one mother tongue and more than one language spoken at home.
- They were also more likely to report a language other than English or French as their only mother tongue, than when they completed the **short** questionnaire in previous censuses, and were less likely to report more than one mother tongue.
- There was no particular change in the way people responded to the question on knowledge of official languages.
- The trend differences for mother tongue and language spoken at home were not influenced by the changes in the 2011 Census data collection and processing methods.
- The analytical results presented in this methodology document show that the observed changes are largely due to the modifications made in the placement and the context of the language questions in the 2011 Census questionnaire, compared with previous censuses.
- These results also show that the 2011 Census questionnaire, distributed to the entire population, is a hybrid of the 2006 short questionnaire, distributed to 80% of the population, and the 2006 long questionnaire, distributed to 20% of the population.
- Although the 2011 Census data are considered to be of good quality, the analyses presented in this document nevertheless show that the data tend to underestimate the relative share of mother tongues other than English or French and to overestimate the relative share reporting more than one mother tongue (multiple responses) compared with the 2001 and 2006 long questionnaires. Conversely, this underestimation of "other" languages is smaller than the underestimation observed in data from the 2001 and 2006 short questionnaires. The overestimation of multiple responses is also weaker.
- With regard to the language spoken most often at home, the results presented in this methodology document show that the 2011 Census questionnaire tends to produce more multiple responses and to underestimate the number of single responses of one "other" language.
- Data users are advised to exercise caution in interpreting trends in mother tongue and home-language, based on a comparison of 2011 Census data with data from earlier censuses.

Introduction

Census data on language provide a snapshot of the linguistic situation in Canada at a specific point in time. They can also be used to track the linguistic situation when they are compared with data from previous censuses.

Such comparisons require that any changes that may have taken place during the period under study be taken into account. The way in which Canadians respond to Census of Population questionnaires, or any other survey, can be influenced by a number of factors, including methodological ones. Thus, the comparability of language data over time depends, at least in part, on changes that may be made between one census and another in such things as the wording of questions, their placement in the questionnaire, coverage, collection, or edit and imputation procedures.

The methodology of the Census of Population underwent major changes in 2011. While the instruments used in previous censuses consisted of a short questionnaire, to be completed by 80% of Canadian households, and a long questionnaire, to be completed by the remaining 20%, the 2011 Census had a single ten-item questionnaire to be completed by all households. This census was followed by the voluntary National Household Survey, which was distributed to a sample of one third of Canadian households.

In 2011, for the first time, three language questions (knowledge of official languages, languages spoken at home, and mother tongue) were included in the census questionnaire distributed to all Canadian households.[1] In previous censuses, the short questionnaire had only one language question, "the first language learned at home in childhood and still understood" (mother tongue), while the long questionnaires have had five language questions since 2001, including the mother tongue question.[2]

The 2011 Census data on language are considered to be of good quality. Nevertheless, Statistics Canada urges data users to exercise caution in interpreting changes in the linguistic situation between 2006 and 2011. That is because Statistics Canada has observed changes in the way in which Canadians responded to the questions on mother tongue and language spoken at home. Canadians seem to have been less likely to report a language other than English or French as their only mother tongue, than in the long questionnaires of previous censuses, and more likely to report more than one mother tongue and more than one language spoken at home.[3] The way in which Canadians answered the mother tongue question is also different from the way in which they answered the same question in the short questionnaires of previous censuses.[4]

1. The questions on knowledge of English and French and on languages spoken at home were added to the 2011 Census questionnaire because of the federal government's obligations to maintain up-to-date data on Canadians' first official language spoken, in order to estimate the potential demand for government services in each official language.
2. The long questionnaire contains two two-part questions, one on languages spoken at home, and the other on languages used at work.
3. To gain a better understanding of the factors that may have influenced the distribution of responses to the mother tongue question in 2011, the data evaluation took into account the increase in Internet responses between 2006 and 2011 (from 20% to 54%) and missing and inconsistent responses, and the factors associated with census data collection and processing methodology were reviewed. With the exception of the possible influence of differential net undercoverage, the evaluation suggests that none of these factors can have been responsible for the general pattern of responses to the mother tongue question in 2011. Undercoverage estimates for the 2011 Census will not be available until the fall of 2013, when it will be possible to gauge the impact that undercoverage has on the results.
4. Our analysis will be limited mostly to the results of the 2001 and 2006 censuses, in order to show how the changes observed between 2001 and 2006 are different from the changes observed between 2006 and 2011.

The purpose of this methodology document is to show that, because of the use of different census questionnaires, Canadians respond differently to the mother tongue and language spoken at home questions. In particular, the analysis presented here appears to confirm that the changes observed result from the modifications made to the placement and context of the language questions in the 2011 census questionnaire compared with previous censuses.

This document is divided into two parts. Part 1 deals with the influence that the census questionnaire had on the way in which the language questions were answered. First, we show how the 2011 census questionnaire is different from the 2001 and 2006 questionnaires. Then we note that the effect of a questionnaire change had been demonstrated in a series of studies in the wake of the changes made in the 1991 Census. These studies also showed that the long census questionnaire is more precise, in particular because it has less response bias than the short questionnaire. We conclude Part 1 with a description of the differences in the distribution of responses to the mother tongue and language spoken at home questions, between 2006 and 2011, compared with the previous intercensal period.

In Part 2, the impact of the questionnaire change will be demonstrated through linkages of the records of the same respondents in the 2001 and 2006 censuses, taking into account whether they had responded to similar or different questionnaires in the two censuses. In addition, observations based on these linkages, between the 2001 and 2006 censuses, will shed light on how the changes in the 2011 Census affected the comparability of the results with the 2006 short and long questionnaires.

Part 1. The census questionnaire's influence on the way in which the language questions were answered

a) The 2011 census questionnaire in comparison with the 2001 and 2006 questionnaires

The 2011 census questionnaire, distributed to all households in Canada, included two language questions from the 2006 census long questionnaire (knowledge of official languages and languages spoken at home) along with the mother tongue question, the only language question in the 2006 short questionnaire.

As a result, the order and context in which the language questions appear were modified. In the 2006 census long questionnaire, the demographic questions date of birth, sex, marital status, relationship to Person 1) and questions on the activities of daily living, place of birth, and citizenship and immigration, preceded the language questions. (In the 2011 census form, these language questions were preceded only by the demographic questions.

In addition, in the 2001 and 2006 long questionnaires, the mother tongue question was preceded by the questions on knowledge of official languages, knowledge of non-official languages and languages spoken at home, in this order. The question on knowledge of non-official languages was not asked in the 2011 Census.

Table 1 below provides some information about the 2001, 2006 and 2011 questionnaires and the location of the basic language questions within them. The wording of the mother tongue question was the same in 2001, 2006 and 2011:

What is the language that this person **first learned** at home **in childhood** and **still understands**?

If this person no longer understands the first language learned, indicate the second language learned.

Table 1 reflects the fact that the 2011 questionnaire is different from the short questionnaire (distributed to 80% of Canadian households), as well as the long questionnaire (distributed to 20% of the households) used in previous censuses. First, like the short questionnaire, it contains a small number of questions, 10 to be specific, compared with seven in the 2001 short questionnaire, and eight in the 2006 short questionnaire. However, the 2011 Census has three language questions, while the 2001 and 2006 short questionnaires have just one.[5]

Table 1 Some information about the questionnaires and the language questions in the 2001, 2006, and 2011 Censuses

Questionnaire and census year	Total number of questions in the questionnaire	Total number of basic language questions[1]	Mother tongue question
2001 short questionnaire	7	1 (question 7)	Question 7
2001 long questionnaire	51	4 (questions 13, 14, 15 and 16)	Question 16
2006 short questionnaire	8	1 (question 7)	Question 7
2006 long questionnaire	53	4 (questions 13, 14, 15 and 16)	Question 16
2011 Census	10	3 (questions 7, 8 and 9)	Question 9

Note:
1. Questions asked of all respondents.

Source: Statistics Canada.

Table 1 shows that the 2011 Census questionnaire is similar in length to the short questionnaire, but different in that it has three language questions instead of one. It is also comparable to the long questionnaire in that it has more than one language question—three to be specific—while the 2001 and 2006 long questionnaires have four (not counting the two-part question on language of work). Furthermore, apart from the absence of the question on knowledge of non-official languages in 2011, the order of the language questions is the same in the 2011 Census as it was in both the 2001 and 2006 long questionnaires.

5. The mother tongue question is the only language question asked in every short questionnaire from 1971 to 2006. In contrast, the long questionnaires, from 1971 to 1986 , asked three questions: one on the mother tongue, one on the language spoken most often at home, and one on the ability to carry on a conversation in either official language. The exception was the 1976 questionnaire, which only asked the question on mother tongue. In 1991, a new question on knowledge of languages, other than English or French, was added to the long form, followed in 2001 by a question on the other languages spoken regularly at home, and a two-part question on the languages used at work.

b) Previous studies of the differences in results based on the short and long questionnaires

Since 1996, both the analysis and dissemination of mother-tongue statistics, based on census data, have relied almost exclusively on responses from the long questionnaire, distributed to a 20% sample of Canadian households.

Although the wording of the mother-tongue question was the same in the short and long questionnaires of previous censuses, the data from the short and long questionnaires have generally exhibited substantial differences, especially since 1991.[6]

For example, the number and proportion of responses of more than one mother tongue (multiple responses) are higher when the mother tongue question is asked in the short questionnaire than when it is asked in the long questionnaire. For example, in 1991, 1.2% of the population who responded to the long questionnaire reported more than one mother tongue, compared with 3.0% of the population who completed the short questionnaire. As a result, the data from the long questionnaire had a larger number and proportion of single responses for French and, in particular, for non-official languages. In the same census, 14.8% of the population reported a single mother tongue other than English or French in the long questionnaire, compared with 12.6% in the short questionnaire.

Since 1991, Statistics Canada has pointed out regularly that the differences between the results based on data from the short and the long questionnaires were attributable to the fact that, in the former case, the mother tongue question was the only question asked, while in the latter case, other language questions preceded the mother tongue question.

Studies conducted by Statistics Canada, following the 1986[7] and 1991 censuses, showed that respondents were less likely to report two or more mother tongues when they were able to indicate their knowledge or use of languages beforehand, and that the precision and accuracy of the mother tongue data were better as a result.

The results observed in the 1991 and subsequent censuses are related to major changes in the long questionnaire compared with previous censuses. The three language questions from previous censuses were grouped together, and the order in which the language questions appeared was altered. There were also some changes in the wording of a few questions. In addition, the language questions section was expanded with the addition of a new question on the ability to carry on a conversation in a language other than English or French.[8]

As a result of these changes, between 1986 and 1991 the proportion of multiple responses on the long questionnaire declined from 3.4% to 1.2% for the mother tongue question, and from 4.6% to 1.8% for the language spoken at home question.[9]

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6. Note that up until 1986, the mother tongue question appeared in the same position in the order of questions in both the short and long questionnaires.
7. Particularly in the 1988 National Census Test (NCT). One of the main objectives of the NCT was to decrease multiple responses (less stable than other responses) to the mother tongue and language spoken at home questions, without preventing respondents from indicating more than one language, where appropriate; see Statistics Canada, *National Census Test, Language Questions: Analysis of Results and Recommendations*, July 28, 1989. This report recommends pursuing the objective of reducing the frequency of multiple responses in the 1991 Census by grouping the language questions together, which would help respondents to understand the differences between them, and to provide more accurate responses.
8. Apart from these changes, converting the questionnaire from a sequential format to a matrix format considerably reduced the number of inconsistent responses across the language questions in the long questionnaire.
9. For more information, see "Language spoken at home and mother tongue", Statistics Canada Catalogue No. 93-317, 1993.

In-house methodology studies[10] conducted by Statistics Canada following the 1991 Census revealed that the mother tongue data from the long questionnaire were generally more precise because they seem to be a more accurate reflection of reality and, as a result, they contain less response bias attributable to the questionnaire's structure.

However, in the case of small geographic areas and very small linguistic minorities, the sampling error is often larger than the error resulting from these response biases. In these particular cases, the data from the short questionnaire are more reliable, despite the potential response bias.

Other studies were carried out, following the 1991 Census, to examine the quality of the data from the short questionnaire.[11] For example, the 1991 Reverse Record Check Study compares data from a sample of 1991 Census responses with data from other sources, including the 1986 Census. This comparison can be used to analyze the inconsistencies between the two censuses. In other words, it can be used to examine the extent to which the same respondents[12] provide identical or different answers to the same questions in the two questionnaires.

For the mother tongue question, the results showed a very high level (75% or more) of inconsistency and, therefore, instability between the 1986 and 1991 censuses for all multiple response categories. This means that when a respondent provides a multiple response in one census, that response will be different 75% of the time in the next census. Single responses of "Other" exhibited a moderate level of inconsistency (response change of about 22%), and single responses of an official language showed a lower level of inconsistency (less than 5%).[13]

A review of the mother tongue inconsistency rates, from the 1981, 1986 and 1991 reverse record checks, showed that multiple responses to this question are very unstable and unreliable. They remain unstable even when we manage to reduce their number (as was done in the long questionnaire between 1986 and 1991).

The distribution of responses to the mother tongue question, according to the 1991 coverage study, revealed that the short questionnaire significantly underestimated the proportion of the population with a single mother tongue other than English or French[14] and significantly overestimated the proportion of multiple responses.

One part of the 1991 coverage study included a set of language questions, different from the census questions, to identify, as precisely as possible, the first language learned at home in childhood and still understood by the respondent. The results of that study were then compared with the responses provided by the same respondents in the long or short census questionnaires to establish the consistency of the responses between the data sources.

10. For example, Mike Bankier's study entitled "Consideration of the Accuracy of Various Estimators of Mother Tongue in the 1991 Census".
11. For example, "La répartition des réponses multiples dans les variables linguistiques du recensement", Réjean Lachapelle and Christian Thibault, Statistics Canada, paper presented at the May 1993 ACFAS conference, and "Recensement de la population de 1991 : étude de la qualité des données du questionnaire abrégé", Christian Thibault, Statistics Canada, paper presented at the May 1994 ACFAS conference.
12. Note that the questionnaire is not necessarily completed by the same person in the household from census to census.
13. The inconsistency rates for English and French vary depending on whether we are analyzing data for Quebec or data for the rest of Canada. Outside Quebec, the inconsistency rate was about 11% for "French" responses and 3% for "English" responses. In Quebec, the rates were 2% and 15% respectively.
14. According to this 1991 coverage study, for the population living outside Quebec the 2A questionnaire underestimated the proportion of single responses of "Other" by 4.4 percentage points compared with the coverage study; the data from the 2B questionnaire underestimated this population by 1.5 percentage points. In Quebec, the proportions were 2 percentage points and 0 percentage points respectively.

The results of this study clearly showed that the distribution of responses to the mother tongue question was almost identical to the distribution observed in the data from the long questionnaire, but different from the distribution observed in the data from the short questionnaire.

c) Differences in responses to the mother tongue and language spoken at home questions between 2006 and 2011 compared with the previous intercensal period

A preliminary overview of the differences observed between the data from the 2001 and 2006 short and long questionnaires, on one hand, and, on the other hand, the 2011 Census data is presented in Table 2. First, the table shows that the proportion of multiple responses to the mother tongue question, in 2001 and 2006, is higher in the short questionnaire data than in the long questionnaire data.

In the 2006 Census, 1.3% of the population, who responded to the long questionnaire, reported more than one mother tongue, compared with 3.6% of the population who completed the short questionnaire. Similarly, in 2001 and 2006, the proportion reporting a language other than English or French, in the short questionnaire, is about 4 percentage points lower than the proportion in the long questionnaire.

With regard to the 2011 Census data, the proportion of multiple responses is higher than in the long questionnaire data, but lower than in the short questionnaire data.

For language spoken at home, we see that the proportion of multiple responses doubled from 1.8% in the 2001 and 2006 censuses to 3.5% in 2011. In contrast, the proportion reporting an "other" language, which rose 1.4 percentage points, between 2001 and 2006, stayed at the 2006 level of 11.1%.

Table 2 Mother tongue based on data from the short[1] and long questionnaire, and percentage of the population by language spoken most often at home, Canada, 2001, 2006 and 2011

Language	Mother tongue					Language spoken most often at home		
	2001		2006					
	Short	Long	Short	Long	2011	2001	2006	2011
Single responses								
English	59.7	58.5	59.1	57.2	56.9	66.7	65.9	64.8
French	21.7	22.6	21.4	21.8	21.3	21.8	21.2	20.6
Other	13.7	17.6	16.0	19.7	19.8	9.7	11.1	11.1
Multiple responses	4.9	1.3	3.6	1.3	1.9	1.8	1.8	3.5

Note:
1. Note that statistics from the short questionnaire are based on data collected from 80% of the population.

Sources: 2001, 2006 and 2011 Censuses.

Tables A1.1 to A1.3, in Appendix 1, provide a detailed picture of the changes observed in the distributions of responses to the mother tongue and language spoken at home questions between the 2001, 2006 and 2011 censuses.

Table A1.1 shows that the growth rate of the population reporting more than one mother tongue in the long census questionnaire was 3.1% (11,625 people), between 2001 and 2006, compared with 62.8% (246,775 people), between 2006 and the 2011 Census. In contrast, the growth rate of the population reporting a language other than English or French was 18.2% (945,600 people), between 2001 and 2006, compared with 6.8% (419,845), between 2006 and 2011. Conversely, the population reporting English or French as mother tongue grew faster, between 2006 and 2011, than in the previous intercensal period.

Table A1.2 presents the distribution of the population by mother tongue, based on 100% data from the 2001 and 2006 censuses, and on the data from the 2011 Census.[15] Since the 2001 and 2006 short questionnaires tend to have a higher proportion of multiple responses and a lower proportion of single responses to the mother tongue question, about a language, other than English or French, compared with the long questionnaires, it is not surprising to note that the trend in multiple responses between 2006 and 2011 is a reverse trend seen in the data from the 2001 and 2006 long questionnaires.

Since Citizenship and Immigration Canada's figures for the number of new permanent residents in Canada with a mother tongue other than English, French, or an Aboriginal language, were almost the same for the 2006–2011 period (1,081,100) as for the 2001–2006 period (1,060,350),[16] the growth of the population reporting an "other" language, between 2006 and 2011, should be similar to the growth between 2001 and 2006, which is not the case, whether we use data from the short questionnaire or the long questionnaire.

Finally, Table A1.3 shows the changes in the pattern of responses to the two-part question on languages spoken at home.

A comparison of the 2006 and 2011 data on language spoken most often at home reveals trends similar to those observed in the mother tongue data from the 2006 long questionnaire. Unlike the mother tongue, however, the language spoken most often at home by some subpopulations is more likely to change in their lifetime, particularly as a result of language transfers[17] due to the adoption of an official language at home.

Table 2 showed that the proportion of the population that reported speaking a language, other than English or French, most often at home remained steady at 11.1% between 2006 and 2011. According to Table A1.3 in Appendix 1, this population grew by 201,735 (or 5.8%) between 2006 and 2011 and by 583,590 (or 20.2%) between 2001 and 2006, a difference of nearly 382,000.

This smaller growth in the number of single responses of an "other" language was combined with a substantial increase in both the number and percentage of multiple responses to the question on the language spoken most often at home.

The number of multiple responses increased by more than 586,000, between 2006 and 2011, compared with nearly 48,000 between 2001 and 2006. Thus, the number of people who reported speaking more than one language, most often at home, more than doubled between 2006 and 2011, compared with a 9% increase between 2001 and 2006.

The statistics on languages spoken regularly (other than the languages spoken most often) at home, where applicable, show how language spoken at home responses changed between 2006 and 2011 (Table A1.3).

In general, the steep decline in single responses of an "other" language, spoken most often at home appears to have been offset by a sharp increase in multiple responses to the same question, in 2011, and by a larger increase in the number of people who reported an "other" language being spoken regularly at home (secondary language), between 2006 and 2011 (560,390), than between 2001 and 2006 (217,665).

15. The 2001 and 2006 statistics presented in Table A1.2 are based on the 100% data posted on Statistics Canada's website.
16. According to the Citizenship and Immigration Canada microdata file supplied to Statistics Canada.
17. A language transfer or substitution occurs when a person adopts a language other than his or her mother tongue as the language he or she speaks most often at home.

d) Knowledge of official languages and first official language spoken

Before we continue with our examination of the responses to the mother tongue and language spoken at home questions, we should point out that the 2011 Census of Population data on knowledge of official languages (the self-reported ability to carry on a conversation in English and/or French) are comparable to the data from previous censuses.[18] The same is true for the "first official language spoken" (FOLS) variable. The latter is derived from the responses to the questions on knowledge of official languages, mother tongue, and language spoken most often at home, successively.

Although the FOLS variable is based on information from two questions for which differences were found in the way they were answered, the comparability of the 2006 and 2011 FOLS data does not seem to have been affected. A review of the data at the census subdivision level did not reveal any unusual differences in the results.

In addition, almost everyone who reported English or French as his or her FOLS, five years ago, had the same FOLS in 2011. Specifically, 99% of the people who reported English as their FOLS, in 2006, and 97% of those who reported French, had the same first official language spoken in 2011. This result is largely related to the fact that any changes that may have occurred in mother tongue, or language spoken most often at home, had little or no effect on the predisposition toward one official language or the other, in estimating the first official language spoken.[19]

Part 2. Consistency of mother tongue and language spoken at home responses between censuses

In theory, the first language learned at home in childhood, and still understood at the time of the census (mother tongue), should be a stable characteristic of an individual. Except in rare cases, where a person no longer understands the first language he or she learned, mother tongue should not change, whichever other languages the person learns throughout life.[20] It is, therefore,reasonable to expect that individuals would report the same mother tongue in consecutive censuses.[21]

In other words, if an individual reports—for himself or herself, or for a household member—a language different from the one reported in the previous census, it may be as a result of the questionnaire itself, rather than because of an actual change of language. In Part 2 of this methodology document, we will attempt to confirm this hypothesis.

18. It should be noted, however, that when the 2006 Census data were released, Statistics Canada noted an unexpected slight decline in the proportion of the French-mother-tongue population that reported being able to carry on a conversation in both official languages.
19. In general, because the first criterion examined in estimating the first official language spoken is knowledge of official languages, changes observed in the way in which the mother tongue and language spoken at home questions were answered had little influence on the results for first official language spoken.
20. Under the criteria historically used by Statistics Canada, a person's mother tongue (language first learned at home in childhood and still understood) can change if it is no longer "understood" by that person at the time of census. However, this is thought to be a marginal phenomenon in the population as a whole. See Lepage, Jean-François. 2011. "L'oubli de la langue maternelle : les données du recensement sous-estiment-elles les transferts linguistiques?", Cahiers québécois de démographie, Vol. 40, no. 1, pp. 61-85.
21. It is important to keep in mind that the questionnaire is not necessarily completed by the same household member in two consecutive censuses.

To this end, the responses provided by the same persons in the 2006 and 2011 censuses were compared, and the results were considered in light of record linkages between the 2001 and 2006 Censuses.[22] In this section, we discuss the net rates of response change and their influence on the breakdown of the population by linguistic group.

The examination of the response changes between censuses, through record linkages, covers the following six cases:

1. Respondents to the 2001 and 2006 short questionnaires
2. Respondents to the 2001 short questionnaire and the 2006 long questionnaire
3. Respondents to the 2001 and 2006 long questionnaires
4. Respondents to the 2001 long questionnaire and the 2006 short questionnaire
5. Respondents to the 2006 short questionnaire and the 2011 Census
6. Respondents to the 2006 long questionnaire and the 2011 Census

It is important to note at the outset that, for all record linkages combined, the stability of an official language being reported as mother tongue, by the same respondent, between the 2001 and 2006 censuses and between the 2006 and 2011 responses, is greater than 95%. The stability of an "other" language being reported is nearly 80%, while the stability of multiple responses is just 18%.

a) Changes in responses to the mother tongue question and impact on the size of linguistic groups

Figures 1, 2 and 3 show the net rates of response change for the six types of record linkage mentioned above: the four types of record linkage based on the 2001 and 2006 short and long questionnaires, and the two types of record linkage based on the 2006 short and long questionnaires and the single 2011 questionnaire.

The net rates of change in response are calculated by dividing the net number[23] of changes in response in the intercensal period, for a given mother tongue, by the population of that mother tongue at the beginning of the period. The results are presented for the following mother tongues: English, French, and other than English or French.[24] They are presented separately for Canada, Quebec and Canada, outside Quebec. The differences between Quebec and the rest of Canada are large enough to warrant making the distinction between these geographic entities.[25]

22. For a description of these record linkages, see Appendix 2.
23. In other words, for the "French" group, for example, it is the net difference between the population that reported French at the beginning of the period but not in the next census and the population that reported a language other than French at the beginning of the period but French in the next census.
24. For an analysis of the net rates of change for multiple responses, see Appendix 3. The magnitude of the rates of change for these multiple responses is similar to what was observed when the 1986 and 1991 data were compared.
25. There are no major differences between the net changes when multiple responses are included or excluded. When the multiple responses are redistributed equally among the three linguistic groups (English, French and "other"), the differences between the percentages (or rates) of net change are lower (the positive rates are less positive and the negative rates less negative), but the trends are generally the same.

Looking first at the 2001–2006 period, we see that the net rates of change are lowest for respondents who completed the same questionnaire in both censuses, especially when it was the long questionnaire. At the Canada level, the net rates of change in response for the English- or French-mother-tongue groups are effectively zero in the population that completed the long questionnaire in both 2001 and 2006. The rate is slightly positive (1.4%) for respondents with a mother tongue other than English or French. The situation is similar in Quebec, except for a very modest 1.5% net rate of change to English. In the rest of Canada, there is also a very modest 1.6% net rate of change, but this time to French.

Figures 1, 2 and 3 also show very low net rates of change for respondents who completed the short questionnaire in both 2001 and 2006, though these rates are slightly higher than those for respondents who answered the long questionnaire in both censuses. For Canada as a whole, the net rate of change is 4.7%, for the group with a mother tongue other than English or French, and about 1% for the English- and French-mother-tongue groups. In Quebec, the net rate of change is 8.5%, for the group with a mother tongue other than English or French, and 5% for the English-mother-tongue group. Outside Quebec, the net rate of change is 6% for the French-mother-tongue group, and 4.1% for the group with a mother tongue other than English or French.

These observations corroborate the already established fact that mother tongue is a stable characteristic and, that using the same questionnaire provides better comparability of results over time. Moreover, the fact that the net rates of change are lower for respondents to the long questionnaire (in which the mother-tongue question is the last in a series of four language questions in a series of socio-demographic questions) —, than for short-questionnaire respondents, adds to the evidence that the long questionnaire captures the mother tongue variable better than the short questionnaire.

The net rates of response change for the mother tongue question are very different when there was a change of questionnaire between 2001 and 2006, especially in the case of the group with a mother tongue other than English or French. For example, 31.7% more Canadians, among those who completed the short questionnaire in 2001, reported a mother tongue other than English or French on the 2006 long questionnaire. Conversely, 20.4% fewer Canadians, among those who completed the long questionnaire in 2001, reported a mother tongue other than English or French on the 2006 short questionnaire. The pattern is the same in Quebec as for the rest of Canada.

These results confirm the observations made in previous studies of data, from the 1986 and 1991 Censuses, which showed that the short questionnaire tends to produce fewer responses of a language other than English or French.

The difference between Quebec and the rest of Canada lies in the sharp increase in net rates of response change for the mother tongue question, within the French-mother-tongue group outside Quebec. Specifically, 17.2% more people, who completed the 2001 short questionnaire and the 2006 long questionnaire, reported French as their mother tongue, in 2006, than in 2001. Conversely, among those who completed the 2001 long questionnaire and the 2006 short questionnaire, 8.8% fewer reported French as their mother tongue in 2006, than in 2001.

In other words, a large proportion of Canadians with a mother tongue other than English or French answer either English or French, or even provide a multiple response, on the mother tongue question, instead of answering "other", when the question is asked in the short questionnaire, out of the context provided by the other socio-demographic and language questions. With regard to French-mother-tongue respondents outside Quebec, a substantial proportion of them tend to report English as their mother tongue, rather than French, when they complete the short census questionnaire instead of the long questionnaire.

Now let's look at the net rates of change between the 2006 and 2011 Censuses. Figures 1, 2 and 3 show that, among those who completed both the 2006 short questionnaire and the 2011 Census, 15.8% more people reported in 2011, than in 2006, a language other than English or French. Since the short questionnaire tends to produce fewer responses on language other than English or French, this result suggests that the 2011 Census questionnaire encouraged respondents to report their mother tongue as "other" more often than when they completed the short questionnaire.

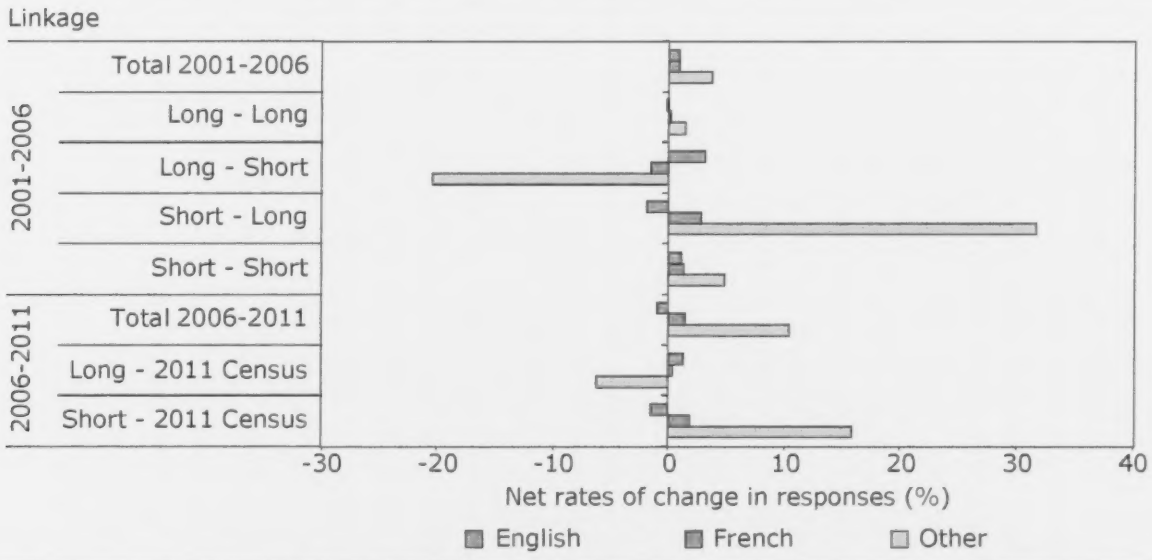
Similarly, 8.7% more respondents outside Quebec, among those who answered the short questionnaire in 2006, reported French as their mother tongue in the 2011 Census.

The opposite is true for respondents who completed the 2006 long questionnaire, although the change was less marked, since the group with a mother tongue other than English or French showed a net loss of 6.2% in 2011. In other words, those same people were less likely to report their mother tongue as "other", in the 2011 questionnaire, than in the 2006 long questionnaire. The net rate of change between the 2006 long questionnaire and the 2011 Census, for the French-mother-tongue group outside Quebec, is close to zero.

The change of questionnaire in 2011 seems to have made some Canadians, particularly those with a mother tongue other than English or French, change their way of answering this question, a situation that undermines data comparability between the 2006 and 2011 Censuses. Since the mother tongue question, in the 2011 Census, was preceded by two other language questions, there appears to be less impact on comparability, between the 2006 long questionnaire and the 2011 Census, than between the 2006 short questionnaire and the 2011 Census.

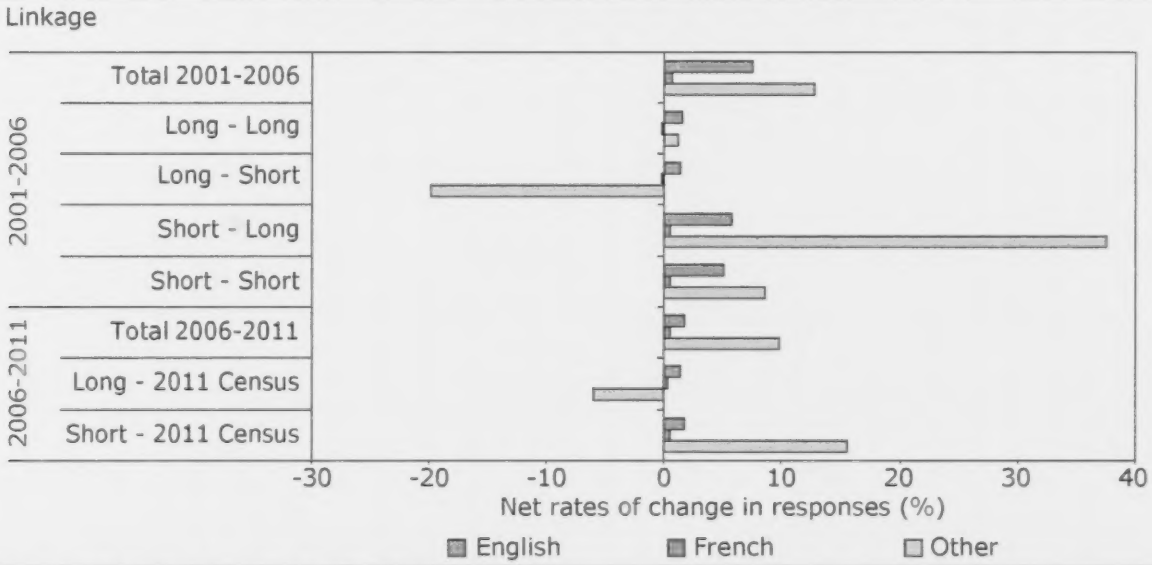
In light of the above results, we can assume that questionnaire change also affected respondents whose records could not be linked between the two censuses, first and foremost, immigrants who came to Canada during that period. In making that assumption, we can also assume that we can explain the majority of the differences between the results of the 2011 Census and the results we would have obtained without a questionnaire change. In other words, there is every reason to believe that the data from the 2011 Census would tend to underestimate single responses of a language other than English or French, and to overestimate multiple responses (very unstable), though to a lesser extent, than the short questionnaire, in the past, compared with the data from the long questionnaire.

Figure 1 **Net rates of change in responses to the mother tongue question, by short or long questionnaire, completed in two consecutive censuses and mother tongue, single responses only – Canada**



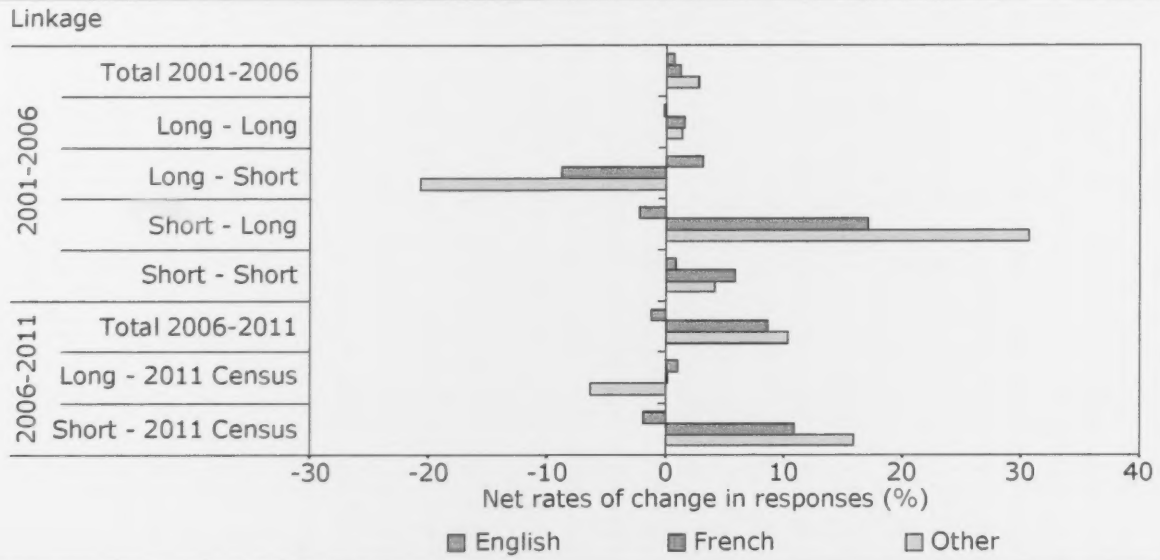
Sources: 2001, 2006 and 2011 Censuses.

Figure 2 **Net rates of change in responses to the mother tongue question, by short or long questionnaire, completed in two consecutive censuses and mother tongue, single responses only – Quebec**



Sources: 2001, 2006 and 2011 Censuses.

Figure 3 Net rates of change in responses to the mother tongue question, by short or long questionnaire, completed in two consecutive censuses and mother tongue, single responses only – Canada outside Quebec



Sources: 2001, 2006 and 2011 Censuses.

b) Changes of response to the language spoken at home question

Unlike mother tongue, language spoken at home is not necessarily a stable characteristic over the course of a person's life. Many studies have shown that some people, at some point in their lives, make a language "transfer" or "substitution". In other words, they adopt a language spoken at home that is different from the first language they learned at home in childhood (mother tongue), usually one of the two official languages.

Since the language spoken at home question was not asked in the 2001 and 2006 short census questionnaires, the analysis that follows can be based only on two types of linkage: between the 2001 and 2006 long questionnaires, and between the 2006 long questionnaire and the 2011 Census.

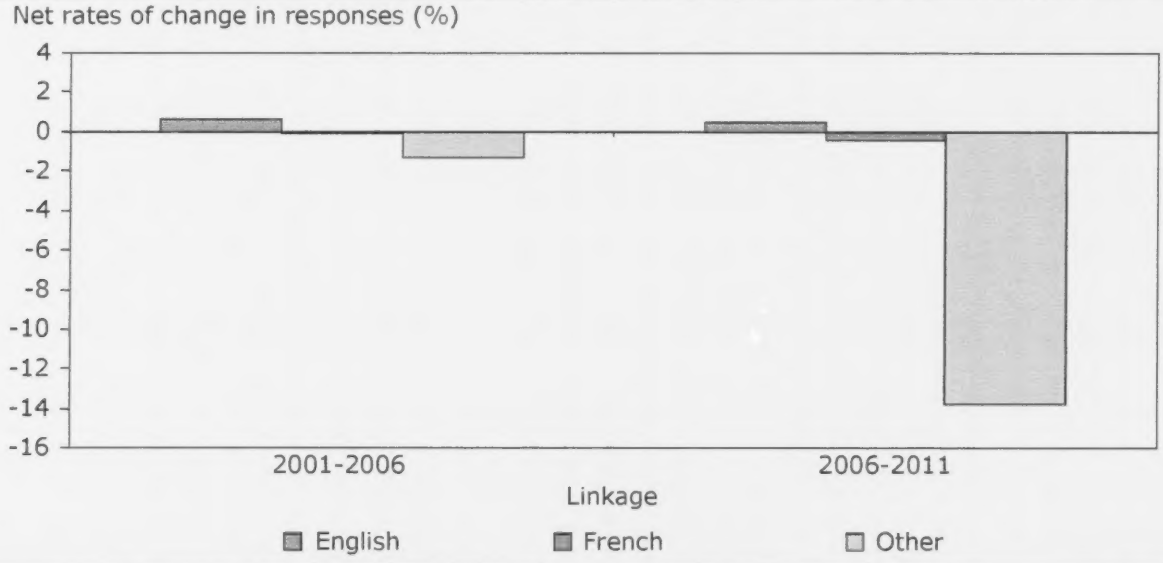
It is also worth noting that, as in the case of mother tongue, responses of more than one language spoken most often at home (multiple responses) are very unstable from census to census. Between 2001 and 2006, only 17% of the people who gave a multiple response in 2001 gave the same response in 2006. Between 2006 and 2011, the proportion was 27%.

An examination of the net rates of change (Figures 4, 5 and 6) of responses (single) for language spoken at home shows results quite similar to the results for mother tongue. Since there was no questionnaire change between 2001 and 2006, we observe very low net rates of change in the responses of people who completed the long questionnaire in both censuses.

On the other hand, we find that 14% fewer respondents who reported speaking a language other than English or French (single response) most often at home, in the 2006 Census, gave the same response in 2011. We also observe that about 3% fewer respondents outside Quebec reported speaking French most often at home, in 2011, than in 2006.

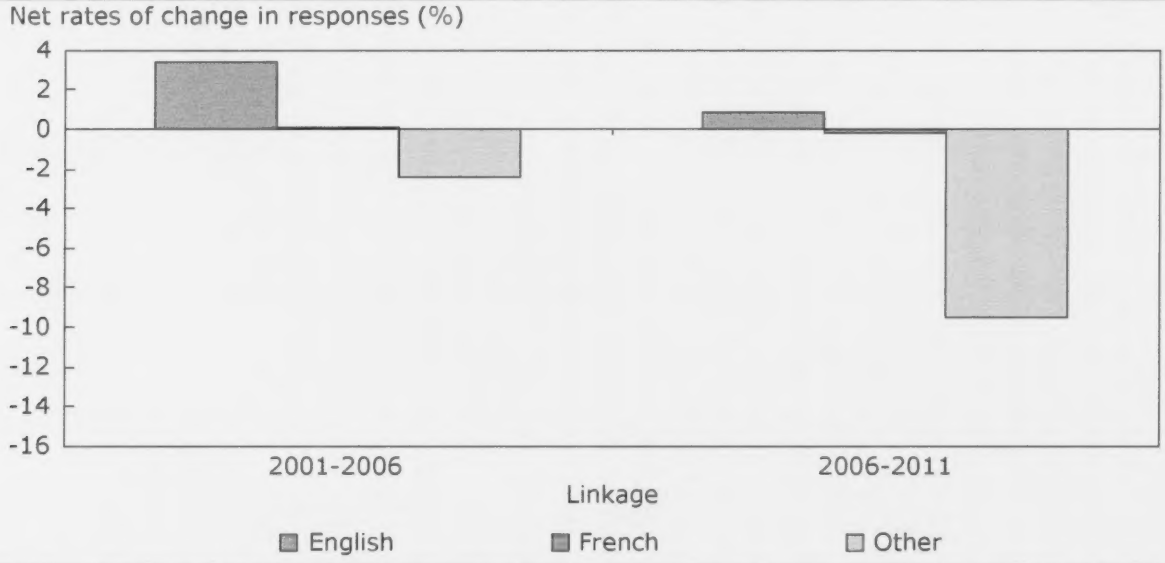
These results are consistent with the ones observed for mother tongue among respondents who completed the long questionnaire in 2006. The explanation for this is probably much the same as the assumption made for mother tongue, which is that asking the language spoken at home question in a context containing several other language questions, as well as other socio-demographic questions, as is the case in the long questionnaire, elicits a more precise response than when it is asked only in the context of three language questions. However, this hypothesis must be tested with more in-depth qualitative tests.

Figure 4 Net rates of change in responses to the language spoken most often at home by language spoken most often at home (excluding multiple responses) and 2001–2006 and 2006–2011 linkages, single responses – Canada



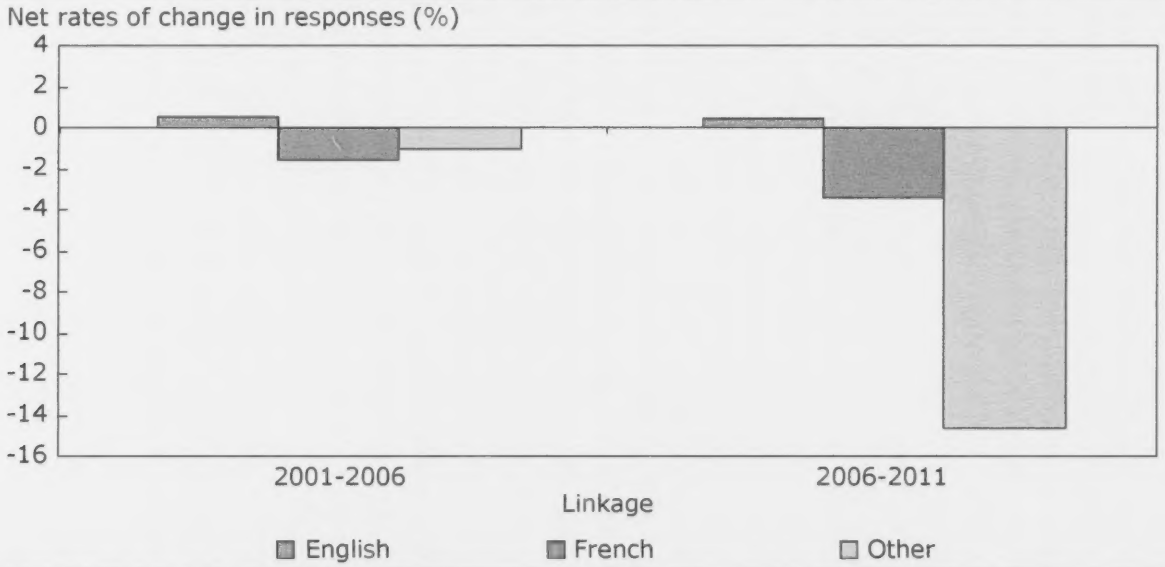
Sources: 2001, 2006 and 2011 Censuses

Figure 5 Net rates of change in responses to the language spoken most often at home by language spoken most often at home (excluding multiple responses) and 2001–2006 and 2006–2011 linkages, single responses – Quebec



Sources: 2001, 2006 and 2011 Censuses.

Figure 6 Net rates of change in responses to the language spoken most often at home by language spoken most often at home (excluding multiple responses) and 2001–2006 and 2006–2011 linkages, single responses – Canada outside Quebec



Sources: 2001, 2006 and 2011 Censuses.

Conclusion

Although the 2011 Census data are considered to be of good quality, we have observed changes in the way in which Canadians responded to the questions on mother tongue, and language spoken at home, compared with previous censuses. No changes were observed for responses to the question on the ability to carry on a conversation in English or in French.

This methodology document has shown that these changes are largely due to the modifications made in the placement and context of the language questions in the 2011 Census questionnaire, in comparison to previous censuses.

The comparison of the responses, by the same persons, to the mother tongue and language spoken at home questions, in two consecutive censuses, clearly showed that when Canadians are asked to answer two identical questionnaires, there is little net response change from census to census.

When they are asked to complete a different questionnaire from the one they completed five years earlier, however, there is substantial response change, particularly in the group with a mother tongue other than English or French and in the group that gave multiple responses for mother tongue and language spoken at home.

Like previous analyses by Statistics Canada, those presented in this document also clearly showed that responses of more than one mother tongue, and more than one language spoken at home, are very unstable from census to census.

The results presented in this document showed that the 2011 Census questionnaire is a hybrid of the short and long questionnaires of previous censuses.

For this reason, Statistics Canada encourages data users to exercise caution in interpreting trends in mother tongue and in language spoken at home, based on a comparison of 2011 Census data with data from earlier censuses.

Appendix 1

Table A1.1 Population by mother tongue, Canada, 2001, 2006 and 2011

Language	2001	2006	2011
		number	
English	17,352,315	17,882,780	18,858,980
French	6,703,325	6,817,650	7,054,975
Other languages	5,202,240	6,147,840	6,567,685
Multiple responses (total)	381,140	392,765	639,540
English-French	**112,575**	**98,625**	**144,685**
English-Other	219,855	240,010	396,330
French-Other	38,625	43,340	74,430
English-French-Other	10,085	10,790	24,095
Grand total	**29,639,030**	**31,241,030**	**33,121,175**

Language	2001	2006	2011
		percentage	
English	58. 5	57. 2	56. 9
French	22. 6	21. 8	21. 3
Other languages	17. 6	19. 7	19. 8
Multiple responses (total)	**1. 3**	**1. 3**	**1. 9**
English-French	0. 4	0. 3	0. 4
English-Other	0. 7	0. 8	1. 2
French-Other	0. 1	0. 1	0. 2
English-French-Other	0. 0	0. 0	0. 1
Grand total	**100. 0**	**100. 0**	**100. 0**

Language	Growth			
	2001-2006		2006-2011	
	number	percentage	number	percentage
English	530,465	3.1	976,200	5.5
French	114,325	1.7	237,325	3.5
Other languages	945,600	18.2	419,845	6.8
Multiple responses (total)	**11,625**	**3.1**	**246,775**	**62.8**
English-French	-13,950	-12.4	46,060	46.7
English-Other	20,155	9.2	156,320	65.1
French-Other	4,715	12.2	31,090	71.7
English-French-Other	705	7.0	13,305	123.3
Grand total	**1,602,000**	**5.4**	**1,880,145**	**6.0**

Note: 2001 and 2006 data: 20% sample of the population.
2011 data: 100% data.
Sources: 2001, 2006 and 2011 Censuses of population.

Table A1.2 Population by mother tongue, Canada, 2001 (100%), 2006 (100%) and 2011

Language	2001	2006	2011
		number	
English	17,592,930	18,348,585	18,859,100
French	6,509,420	6,730,475	7,054,840
Other languages	4,294,070	5,189,055	6,568,015
Multiple responses (total)	**1,242,620**	**972,920**	**639,540**
English-French	305,920	237,840	144,685
English-Other	759,480	590,160	396,330
French-Other	101,570	81,305	74,430
English-French-Other	75,650	63,615	24,095
Grand total	**29,639,040**	**31,241,035**	**33,121,175**

Language	2001	2006	2011
		percentage	
English	59.4	58.7	56.9
French	22.0	21.5	21.3
Other languages	14.5	16.6	19.8
Multiple responses (total)	**4.2**	**3.1**	**1.9**
English-French	1.0	0.8	0.4
English-Other	2.6	1.9	1.2
French-Other	0.3	0.3	0.2
English-French-Other	0.3	0.2	0.1
Grand total	**100.0**	**100.0**	**100.0**

	Growth			
	2001-2006		2006-2011	
Language	number	percentage	number	percentage
English	755,655	4.3	510,515	2.8
French	221,055	3.4	324,365	4.8
Other languages	894,985	20.8	1,378,960	26.6
Multiple responses (total)	**-269,700**	**-21.7**	**-333,380**	**-34.3**
English-French	-68,080	-22.3	-93,155	-39.2
English-Other	-169,320	-22.3	-193,830	-32.8
French-Other	-20,265	-20.0	-6,875	-8.5
English-French-Other	-12,035	-15.9	-39,520	-62.1
Grand total	**1,601,995**	**5.4**	**1,880,140**	**6.0**

Note: 2001, 2006 and 2011 data: 100% data
Sources: 2001, 2006 and 2011 Censuses of population.

Table A1.3 Population by language spoken at home, Canada, 2001, 2006 and 2011

	Part A: Spoken most often[1]			Part B: Spoken on a regular basis[1]		
	2001	2006	2011	2001	2006	2011
	number			number		
Language						
English	19,774,805	20,584,775	21,457,075	1,558,820	1,780,920	1,910,475
French	6,447,585	6,608,125	6,827,860	523,320	616,235	678,940
Other languages	2,888,540	3,472,130	3,673,865	1,187,050	1,404,715	1,965,105
Multiple responses (total)	**528,100**	**576,005**	**1,162,375**	**94,525**	**99,975**	**148,060**
English-French	107,645	94,060	131,205	25,785	29,175	40,285
English-Other	355,220	406,460	875,135	24,030	30,210	49,905
French-Other	49,335	58,885	109,705	43,895	39,890	56,385
English-French-Other	15,900	16,600	46,330	815	700	1,485
None				26,275,310	27,339,185	28,418,595
Grand total	**29,639,030**	**31,241,030**	**33,121,175**	**29,639,030**	**31,241,030**	**33,121,175**
	2001	2006	2011	2001	2006	2011
	percentage			percentage		
Language						
English	66.7	65.9	64.8	5.3	5.7	5.8
French	21.8	21.2	20.6	1.8	2.0	2.0
Other languages	9.7	11.1	11.1	4.0	4.5	5.9
Multiple responses (total)	**1.8**	**1.8**	**3.5**	**0.3**	**0.3**	**0.4**
English-French	0.4	0.3	0.4	0.1	0.1	0.1
English-Other	1.2	1.3	2.6	0.1	0.1	0.2
French-Other	0.2	0.2	0.3	0.1	0.1	0.2
English-French-Other	0.1	0.1	0.1	0.0	0.0	0.0
None				88.7	87.5	85.8
Grand total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

	Growth							
	Part A: Spoken most often				Part B: Spoken on a regular basis			
	2001-2006		2006-2011		2001-2006		2006-2011	
	number	percentage[2]	number	percentage	number	percentage	number	percentage
Language								
English	809,970	4.1	872,300	4.2	222,100	14.2	129,555	7.3
French	160,540	2.5	219,735	3.3	92,915	17.8	62,705	10.2
Other languages	583,590	20.2	201,735	5.8	217,665	18.3	560,390	39.9
Multiple responses (total)	**47,905**	**9.1**	**586,370**	**101.8**	**5,450**	**5.8**	**48,085**	**48.1**
English-French	-13,585	-12.6	37,145	39.5	3,390	13.1	11,110	38.1
English-Other	51,240	14.4	468,675	115.3	6,180	25.7	19,695	65.2
French-Other	9,550	19.4	50,820	86.3	-4,005	-9.1	16,495	41.4
English-French-Other	700	4.4	29,730	179.1	-115	-14.1	785	112.1
None					1,063,875	4.0	1,079,410	3.9
Grand total	**1,602,000**	**5.4**	**1,880,145**	**6.0**	**1,602,000**	**5.4**	**1,880,145**	**6.0**

Notes:

1. 2001 and 2006 data: 20% sample of the population.
   2011 data: 100% data.
2. Percent growth is calculated as follows : for example, the growth rate of the population that reported speaking English most often at home between 2001 and 2006 (4.1%) is calculated by dividing 809,970 (the growth in numbers between 2001 and 2006) by the population that reported this language in 2001 (19,774,805).

Sources: 2001, 2006 and 2011 Censuses of population.

Appendix 2

Census linkage

This study involves two microdata linkages between censuses: one between the 2001 and 2006 Censuses and one between the 2006 and 2011 Censuses.

The confidentiality of the microdata was maintained in accordance with the *Statistics Act*.

The 2001–2006 linkage provided information about response changes, based on the questionnaire completed in 2001 or 2006: the short questionnaire was administered to 80% of the households, and the 2B questionnaire was administered to 20% of the households. Hence, four comparisons are possible:

- Comparison of the 2001 and 2006 short questionnaires (short – short)
- Comparison of the 2001 short questionnaire and the 2006 long questionnaire (short – long)
- Comparison of the 2001 long questionnaire and the 2006 short questionnaire (long – short)
- Comparison of the 2001 and 2006 long questionnaires (long – long)
- For the 2006-2011 linkage, only two comparisons are possible, since there was only one type of questionnaire for all households in 2011:
- Comparison of the 2006 short questionnaire and the 2011 Census (short – Census)
- Comparison of the 2006 long questionnaire and the 2011 Census (long – Census)

A different method was used in the two linkages.

For 2001, we did not have access to names and telephone numbers for use in matching records (whereas we did for the 2006–2011 linkage). As a result, the 2001–2006 linkage method consisted of two steps. The first step was to link respondents by mega-matching within census divisions (CDs), which means forming pairs of individuals in households on the basis of the "date of birth" and "sex" variables only, and then attempting to match them to all other pairs of individuals in the CD. The second step was to match the individuals by "date of birth" and "sex by dwelling using a geographic file that identifies 2001 and 2006 household numbers, associated with the same dwelling. This two-step method cannot match people who have moved outside of their CD since 2001, or people living alone at a different address from their 2001 address.

The 2006–2011 linkage method is more elaborate than the 2001–2006 method, since we had access to the individuals' names and addresses. The methods used for matching 2001 and 2006 respondents were used again, but in combination with several other methods and without restricting the process to CDs. The goal was to match the right people, rather than to obtain the highest match rate. In this context, strict matching criteria were used to ensure a high level of confidence in the matches obtained. The micro-matching process was carried out in several phases, starting with a more detailed geography (linkage limited to people living in the same CD in 2006 and 2011) and then expanding the geography (ultimately to the national level) for cases not already matched. These methods made it possible to match migrants.

Linked population and link rate

The 2001–2006 linkage process matched 14,635,680 respondents—a link rate of 49.4%. This rate is the number of respondents linked between 2001 and 2006, divided by the total population in 2001 (the population at the beginning of the period). The link rate between 2006 and 2011 was 71.4%, which, in numerical terms, is 22,312,795 persons linked. The difference between the two link rates is attributable to the methods used.

Table A2.1 presents the total populations linked, and the total populations in the censuses for each linkage process, by questionnaire used and link rate. The table shows that the link rate is slightly higher with the long questionnaire than with the short questionnaire, for both the 2001–2006 linkage and the 2006–2011 linkage.

Table A2.2 presents the linkage populations according to the questionnaire used in each census. Note that the proportions of persons linked with the short questionnaire and the long questionnaire are very similar, and closely match the original breakdown between the two questionnaires distributed in the censuses (80% for the short questionnaire and 20% for the long questionnaire).

Table A2.1 Link rate by type of questionnaire ,2001 and 2006

Linkage	Linked population	Population in the census	Link rate
	number		percentage
Linkage 2001-2006			
2001 short questionnaire	11 617,700	23 749,320	48.9
2001 long questionnaire	3,017,980	5,889,715	51.2
Total	**14 635,680**	**29 639,030**	**49.4**
Linkage 2006-2011			
2006 short questionnaire	17 776,425	25,328,180	70.2
2006 long questionnaire	4,536,375	5 912,845	76.7
Total	**22 312,795**	**31,241,030**	**71.4**

Sources: 2001, 2006 and 2011 Censuses of population.

Table A2.2 Population of the linkages by questionnaire used at the beginning and the end of the period

	number	percentage
2001-2006 linkage		
Short - Short	9,302,895	63.6
Short - Long	2,314,805	15.8
Long - Short	2,311,595	15.8
Long - Long	706,385	4.8
Total	**14,635,675**	**100.0**
2006-2011 linkage		
Short - 2011	17,776,425	79.7
Long - 2011	4,536,370	20.3
Total	**22,312,800**	**100.0**

Sources: 2001, 2006 and 2011 Censuses of population.

It is difficult to determine precisely how representative the linked individuals are, within the entire population enumerated in the censuses. Clearly, some members of the population present at the beginning of the period and, the end of the period, cannot be linked: people who left the country or died between the two censuses, on one hand, and people who arrived in Canada, or were born during the same period, on the other.

A comparison of the mother-tongue distributions of the linked population, with the total population in the census, provides an approximation of the representativity of the linked population by mother tongue. Table A2.3 shows that the mother-tongue distributions of the linked 2001 and 2006 populations are similar to the population distributions in the 2001 Census.[26] In particular, we can see that the percentage of multiple responses is lower with the long questionnaire than with the short questionnaire, in both the linked population and the total population in the census. We also note that the population whose mother tongue is "other", both in the total population and in the population of matched individuals, is larger with the long questionnaire than with the short questionnaire.

There are also a number of differences between the mother-tongue distributions in the population of linked individuals and the total population in the census. According to the data from the short questionnaire, the proportion of multiple responses is slightly lower in the population of linked individuals than in the total population enumerated in the census. Another discrepancy lies in the two linkages using the 2001 long questionnaire: their mother-tongue distributions show significant differences. The population of matched individuals, among the people who completed the 2001 and 2006 long questionnaires, has a lower percentage for "other"-mother-tongue, and a higher percentage for French-mother-tongue, than the population of matched individuals, among people who completed the 2001 long questionnaire and the 2006 short questionnaire, and whose mother-tongue distribution more closely resembles the distribution observed with the 2001 Census long questionnaire.

With regard to the 2006–2011 linkage, Table A2.4 shows that the proportion of the 2006 "other"-mother-tongue population, among the population of linked individuals, is 14.4%, compared with 16% in the corresponding census. In relative terms, the 1.6-percentage-point discrepancy is a 10% difference. There is a similar difference for the population who reported French as mother tongue in the 2006 short questionnaire (22.9%, compared with 21.4% in the 2006 Census).

The population of matched English-mother-tongue individuals is also overrepresented when compared with the corresponding census in both linkages, while the population of matched French-mother-tongue individuals is underrepresented in 2001, but overrepresented in 2006. The matched "other" population is underrepresented in comparison with the corresponding census, except in the case of the 2001 long questionnaire, where it is overrepresented.

The representativity of the linked population may be influenced by a number of factors associated with the inclusion of respondents in the linkages: for example, relationship to Person 1, level of education, geographic mobility or, in the case of immigrants, how recently they arrived in Canada.

26. The mother-tongue structure of the linked population is the structure at the beginning of the period (2001).

Table A2.3 Population distribution by mother tongue at the beginning of the period, 2001-2006 linkage, and 2001 Census

	Linkage with the short questionnaire, 2001			
Mother tongue	**Short - Short**	**Short - Long**	**Total**	**Census (short questionnaire)**
English	60.7	60.7	60.7	59.7
French	21.5	21.6	21.5	21.7
Other	13.1	13.0	13.1	13.7
Multiple responses	4.7	4.6	4.7	4.9
English and French	1.0	1.0	1.0	1.2
English and other	3.0	3.0	3.0	3.0
French and other	0.4	0.4	0.4	0.4
English, French and other	0.3	0.3	0.3	0.3
Total	**100.0**	**100.0**	**100.0**	**100.0**

	Linkage with the long questionnaire, 2001			
Mother tongue	**Long - Short**	**Long - Long**	**Total**	**Census (long questionnaire)**
English	59.5	58.5	59.3	58.1
French	22.1	18.1	21.2	22.9
Other	17.1	22.0	18.3	17.6
Multiple responses	1.2	1.4	1.3	1.3
English and French	0.3	0.2	0.3	0.3
English and other	0.8	1.0	0.8	0.8
French and other	0.1	0.1	0.1	0.2
English, French and other	0.0	0.0	0.0	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**

Sources: 2001 and 2006 Censuses of population.

Table A2.4 Population distribution by mother tongue at the beginning of the period, 2006-2011 linkage, and 2006 Census

	2006 short questionnaire		2006 long questionnaire	
Mother tongue	**Linkage**	**Census**	**Linkage**	**Census**
English	59.3	59.1	57.6	57.4
French	22.9	21.4	22.5	22.2
Other	14.4	16.0	18.7	19.2
Multiple responses	3.4	3.6	1.2	1.2
English and French	0.8	0.9	0.3	0.3
English and other	2.0	2.2	0.7	0.7
French and other	0.3	0.3	0.1	0.1
English, French and other	0.2	0.2	0.0	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**

Sources: 2006 and 2011 Censuses of population.

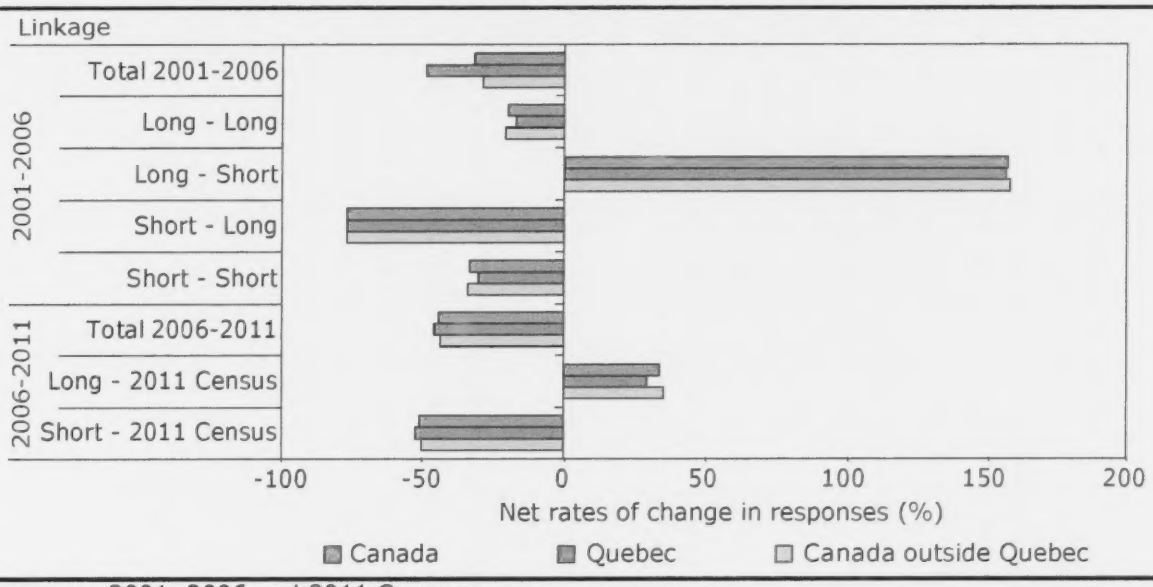
Appendix 3

Figure A3.1 shows that the net rate of multiple-response change, for people who completed the same questionnaire in 2001 and 2006, is much lower than for those who completed a different questionnaire. The rate is also lower for people who completed a long questionnaire.

There are 77% fewer multiple responses among people who completed the long questionnaire in 2006, after completing the short questionnaire in 2001. Conversely, when people completed the long questionnaire in 2001, and had to complete the short questionnaire in 2006, the number of multiple responses increased by 158%. The magnitude of this net increase is largely due to the fact that there are far fewer multiple responses in the long questionnaire than in the short questionnaire.

With regard to the net rates between 2006 and 2011, we observe that, for people who responded to the 2011 Census after completing the short questionnaire in 2006, the multiple-response rate declines by 51%, whereas for those who completed the long questionnaire in 2006, the rate increases by 34%. In other words, the 2011 Census tends to produce more multiple responses than the long questionnaire, but lowers the incidence of such responses in comparison with the short questionnaire.

Figure A3.1 Net rates of change in multiple responses to the mother-tongue question by type of questionnaire completed in two consecutive censuses – Canada, Quebec and Canada outside Quebec



Sources : 2001, 2006 and 2011 Censuses.

Note to readers

Random rounding and percentage distributions: To safeguard the confidentiality of information collected in the 2011 Census, while maintaining the quality of the results, a random rounding process is used to alter the values reported in individual cells. As a result, when these data are summed or grouped, the total value may not match the sum of the individual values, since the total and subtotals are independently rounded. Similarly, percentage distributions, which are calculated on rounded data, may not necessarily add up to 100%.

Because of random rounding, counts and percentages may vary slightly between different census products, such as analytical documents, highlight tables, and topic-based tabulations.

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